

ABSTRACT OF THE DISCLOSURE

An optical micro-electro-mechanical system (MEMS) switch is disclosed. In a preferred embodiment the optical MEMS switch is used as an M x N optical signal switching system. The optical MEMS switch comprises a plurality of optical waveguides formed on a shuttle for switching optical states wherein the state of the optical switch is changed by a system of drive and latch actuators. The optical MEMS switch utilizes a latching mechanism in association with a thermal drive actuator for aligning the waveguide shuttle. In use the optical MEMS switch may be integrated with other optical components to form planar light circuits (PLCs). When switches and PLCs are integrated together on a silicon chip, compact higher functionality devices, such as Reconfigurable Optical Add-Drop Multiplexers (ROADMs), may be fabricated.